BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
BOB STUMP-Chairman
GARY PIERCE
BRENDA BURNS
BOB BURNS
SUSAN BITTER SMITH

IN THE MATTER OF THE APPLICATION OF COMMUNITY WATER COMPANY OF GREEN VALLEY FOR AUTHORITY TO BORROW UP TO $3.4 MILLION FROM COMPASS BANK AND COMPASS MORTGAGE CORPORATION FOR THE PURPOSES OF (1) REFINANCING UP TO $2.2 MILLION IN EXISTING LONG-TERM DEBT; AND (2) ISSUING AN ADDITIONAL $1.2 MILLION IN LONG-TERM DEBT, UNDER A.R.S. §§ 40-301 AND 40-302.

DOCKET NO. W-02304A-14-0041

RESPONSE TO STAFF REPORT

Community Water Company of Green Valley ("CWCGV" or the "Company") provides its response to the Staff Report dated June 23, 2014. CWCGV objects to Staff's recommendation denying its financing request for the new 2.0-million aboveground storage facility (up to $1.2 million.) Further, the Company urges the Arizona Corporation Commission to approve up to $2.2 million refinancing so that it can refinance before November of 2014 and include the administrative costs of processing and obtaining the required regulatory approvals for the refinancing.

Memorandum of Points and Authorities

1. Introduction.

The Company seeks to replace its existing Reservoir #2 (a 1.0-million gallon water-storage facility) by upgrading to a 2.0-million steel aboveground storage tank (the "Storage Tank"). Staff does not dispute the Company's information that Reservoir #2 should be removed due to its vulnerability to contamination, vandalism and need for constant repairs. The Storage Tank removes those threats and reduces maintenance costs.

Thus, CWCGV is troubled by the Staff engineering recommendation to deny the financing application for the Storage Tank. The Company provided Staff considerable information justifying why this Storage Tank is necessary for its system. Much of this information is not addressed by

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Staff in its engineering report. Instead, the engineering report is almost entirely reliant on a simple analysis of capacity, and does not address relevant and material information. The Company will provide that information in this response.

The key question is does CWCGV's request for financing the Storage Tank meet the statutory requirements and enable the Company to continue providing safe and reliable service. CWCGV has spent 37 years developing, maintaining, and operating a water utility and each component of the water system must be evaluated as part of this successful system. Put simply, the Storage Tank is a vital component to CWCGV's overall system – a system that has been in place for years. It is what CWCGV's member-elected board of directors has determined to be in their member-customers' interests. Staff's recommendation to deny weakens the systems, and jeopardizes the reliability and service that has garnered the Company an almost-90% customer-approval rating. Under these facts and circumstances, the Storage Tank provides the most benefit to CWCGV and its customers in a cost-effective way to best ensure safe and reliable service.

Regarding the refinancing, CWCGV appreciates Staff's recommendation to approve the refinancing. The Company simply requests that the Commission approve up to $2.2 million in refinancing to include the administrative costs of processing and obtaining the required regulatory approvals for the refinancing, and to achieve refinancing before November of 2014. Refinancing with Compass Bank will also provide the Company with other advantages over its present financing arrangement – which will consequently improve customer service in areas such as customer payments, payroll deposits, and vendor payment. In the end, allowing the Company some flexibility to refinance before November 2014 is to it and its customers' benefit.

2. The standard regarding financing requests.

The standard regarding financing requests is set forth in A.R.S. § 40-301(C):

> The commission shall not make any order or supplemental order granting any application as provided by this article unless it finds that such issue is for lawful purposes which are within the corporate powers of the applicant, are compatible with the public interest, with sound financial practices, and the proper performance by the applicant of service as a public service corporation and will not impair its ability to perform that service.

The statute essentially sets forth five requirements in order for the Commission to approve the issuance of debt. CWCGV's request meets this standard. The Company meets all five requirements:

- The Company is seeking the financing to refinance existing debt, avoid a balloon payment, and upgrade its system – all lawful purposes.
- It is within the corporate powers of CWCGV to use debt-financing for the Storage Tank and refinance existing debt.
- The Company's request is consistent with sound financial practices. CWCGV would not have an unreasonable capital structure, and has ample cash flow to cover the debt. The Company's Debt Service Coverage is well over 1.0 for the entire $3.4-million request.
- The full financing request improves the ability of the Company to maintain and improve quality of service, and would be proper performance of service. The Storage Tank provides benefits under typical and emergency conditions – as well as when other system components are down for maintenance or repairs. There is no evidence indicating that the Company's financial or technical capability is impaired if its entire request is approved.
- The request is in the public interest and is the best option for CWCGV's *system* as determined through careful planning with a professional engineering firm. The Company's request takes into account its customer profile and plans for major contingencies (as recommended by government agencies and industry groups alike) without having to rely on curtailment.

The Commission must determine whether the financing request meets the requirements established in A.R.S. § 40-301(C). It is not, however, the job of Staff to dictate what it perceives is a "better" option than what CWCGV's board and management have determined to be the appropriate option for its customer-members. That goes beyond Staff's authority. If the Company's request meets the requirements in A.R.S. § 40-301(C), then the request should be

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approved even if Staff would prefer another option. Regulation should not act as a barrier to the actions of a proactive management responding to and looking out for the best interests of their customer-members. CWCGV has provided substantial justification in discovery that shows how its request meets all of the requirements in the statute. It is management's prerogative to decide how best to safely and reliably provide water service so long as not inadequate or unreasonable. The evidence demonstrates the adequacy and reasonableness of CWCGV's request.

The following sections summarize the information provided to Staff justifying the Company's request under A.R.S. § 40-301(C).

3. Background of CWCGV and its system.

Although common knowledge, it cannot be emphasized enough that CWCGV is a non-profit cooperative with a volunteer board of directors. The board members are also member-customers of CWCGV. Member-customers elect the board members. The board sets the direction of how CWCGV provides service. Management works to carry out the mission of the Company as established by the board. Thus, the Company's customers have direct representation in the Company's operations.

Over 90% of CWCGV's customers are residential, and the significant majority of those customers are retirees and elderly. They are particularly vulnerable to water outages for an extensive period of time. Customers have communicated to the Company's board and management their strong desire to have a robust water system that goes above the minimum standards to best maintain safe and reliable service to them.

The Company has worked to keep rates to a minimum while dealing with significant water quality issues. For instance, it installed arsenic facilities without the need for an adjustor mechanism. Its last rate increase took effect over four years ago. This is not a Company that goes forward with a $1.2-million investment to its system without considerable deliberation.

Taking into account its customers and its water system, the CWCGV board determined that it was in their collective interest to replace its existing Reservoir #2 with the more secure Storage Tank. The decision to increase the storage capability to 2.0-million gallons was because of the

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board's determination that a 48-hour supply of water available in case of a major emergency – such as a power outage that knocks out the ability to pump water – better meets the intent of applicable regulations and guidelines for water utilities to provide safe and reliable service. The Company's decision preserves the integrity of CWCGV's system.

CWCGV's system currently consists of four wells and four storage facilities. This system has been developed over time and is essentially four separate systems interconnected with each other to maintain reliability. For instance, if one of the "well systems" failed or was undergoing maintenance, the other three "well systems" could provide safe and adequate service to all customers. This provides sufficient redundancy in the Company's system to ensure a high level of reliable water delivery. CWCGV has the benefit of many years' experience developing its water system. Unfortunately, Staff's engineering report fails to take into account how CWCGV's system has been engineered and the importance of the Storage Tank to maintain that system integrity.

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4. A carefully-managed plan to meet CWCGV's need to provide safe and reliable service under normal operations and during emergencies.

CWCGV communicated the need for the Storage Tank to Staff during discovery:

> "[CWCGV] is planning for a major event (such as a power failure) that would adversely impact its entire system, and its ability to provide safe and reliable service to its customers. [The Company's] management and staff are responsible for the delivery of suitable water to a population of over 22,000 persons (almost 13,000 customers) many of whom are retirees 75 years old or older. This population is especially vulnerable, which is the basis for a 48-hour supply of water based on average use, before curtailment measures would have to be put into effect. [CWCGV] continues to work with local emergency management organizations to develop plans in case of such an event, in addition to ensuring a reliable water supply in accordance with its best practices."[1]

The Company also provided a professional engineering opinion explaining the advantages of aboveground storage over belowground storage.[2] That opinion notes the added security, and the protection from contamination and vandalism the Storage Tank would provide. Also, the opinion

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[1] See Company response to Staff DR STF 5.4 (attached as part of Exhibit 1 to this filing). Pima County has not yet addressed water service issues in case of emergencies for CWCGV customers

[2] That opinion is provided as part of the Company's response to Staff's DR JL 2.1 (attached as Exhibit 2 to this filing.)

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notes that the Storage Tank would reduce pumping costs at Well #10 – and it would also "allow for the elimination of the pressure pump at [the site of Reservoir#2] and create a redundant source of water pressure within the distribution system."[3] Put simply, the Storage Tank provides more benefits than just storage under *all* operating conditions; but the Staff's engineering report fails to recognize any increased efficiencies, added security, lower maintenance costs, and benefits of a reliable on-hand water supply.

Also provided to Staff were the bids CWCGV received for the Storage Tank. The Company selected the lowest out of three received bids that met its needs and requirements; the other bids were approximately $1.275 million and $1.350 million and excluded certain items. Staff received this information through email on April 15, 2014.

Further, the 48-hour standard mentioned previously was not picked out of thin air; rather, CWCGV determined this standard to be appropriate based on its review of publications from the U.S. Environmental Protection Agency ("EPA") and the American Water Works Association ("AWWA"). In assessing the significance of extended power outages, the EPA concluded that the "recovery period would likely be of long duration" due to impacts to other utility infrastructure and what it referred to as "secondary impacts" like with supply chains and mobility difficulties.[4] The AWWA noted that, as part of determining operational resiliency under emergency conditions, one of the factors is treatment operations resiliency, or the percent of minimum daily demand met with primary production or treatment offline for 24, 48, and 72 hours – with minimum daily demand meaning the average daily demand for the lowest production month of the year.[5] At this time,

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[3] See the March 17, 2014 letter from Smyth Industries, Inc. attached to the response to Staff's DR JL 2.1 at 2 (under **Hydraulic Advantages**.) The Company will supplement this opinion to clarify that the reduced pressure is not due to the increase in overall dynamic head in the system. The reduced pressure is independent of increased head pressure. The increased head pressure, however, is another benefit the Storage Tank provides to the system.

[4] See EPA Publication 600/R-11/054 – "Planning for Emergency Drinking Water Supply" at 38 (second principal conclusion) (available at http://cfpub.epa.gov/si/si_public_record_report.cfm?address=nhsrc/&dirEntryId=235197 and last checked July 2, 2014.) at page 38, which is attached as Exhibit 3.

[5] See AWWA et. al. Publication – "Effective Utility Management – a Primer for Water and Wastewater Utilities" (June 2008) at 38-39 available at

CWCGV determined that it can afford system capable of 48 hours of reservoir capacity without unjust or unreasonable rates – deferring further evaluation of a 72-hour reserve for the future. Staff's engineering report ignores the merits of planning beyond minimum standards (established through existing regulatory requirements) – especially when CWCGV can do so in a way where the benefits substantially outweigh the costs.

The Company determined that is reasonable to plan for contingencies based on an average use per day throughout 2013. Consequently, CWCGV determined that having a supply equaling 4,453,037 gallons on hand for an emergency is imperative, as explained in the following section.[6]

5. The Storage Tank is necessary for the Company to have a 48-hour supply in its system and maintain safe and reliable service for its customers.

The Company provided an extensive and detailed analysis of why the Storage Tank is necessary to serve its customer base in discovery.[7] Staff's engineering report fails to recognize that water storage tanks have operating limitations – and that available storage and total storage capacity are not synonymous. In fact, to determine actual water available, storage must be recognized as having several components, including:

- Operating storage – used on a typical day under normal operating conditions.
- Equalizing storage – used when pump capacity is less than demand and needed so that water production facilities can operate at a constant rate.
- Emergency storage – the amount of storage reserved for when there is a supply failure, the amount of which is dependent on repair times and likelihood of interruptions.
- Over flow (non-storage) – an air gap at the top necessary to prevent overfilling and damage to the reservoir.[8]

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http://water.epa.gov/infrastructure/sustain/upload/2009_05_26_waterinfrastructures_tools_si_watereum_primerforeffectiveutilities.pdf and last checked July 2, 2014) at pages 38-39, which are attached as Exhibit 4

[6] See Company response to Staff DR JL 4.2, attached as Exhibit 5, specifically at Table 1, which assumes 12,992 customers and an average annual use of 2,226,518 gallons.

[7] Specifically, the Company's response to Staff DR J.L 4.2 attached as Exhibit 5.

[8] HDR Engineering Inc., *Handbook of Public Water Systems*, (2nd Ed. 2001) at 953-57.

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The Company calculated its need based on an "average operating storage level" determination – using emergency and some equalizing storage to address a system failure.

CWCGV did not rely on the most extreme case to justify the need for the Storage Tank; rather, it relied on relatively conservative scenarios as justification for its request. For instance, the Company utilized average versus low operating storage levels, and also included available water in the Wells #10 and #11 fore bays. Moreover, the Company determined that steel tank storage facilities are sufficiently reliable; this is why its request is not based on having 48 hours of storage available *and* its largest storage facility (Reservoir #4 – an aboveground storage tank) offline.

The tables within the Company's response to Staff data request JL 4.2 show the need for the Storage Tank. Without Reservoir #2, the available water storage is 3,183,625 gallons, or 34-hours-worth of storage.[9] With a 1.0 million aboveground storage tank (essentially the same capacity as the existing Reservoir #2) the available water storage is 3,842,625 gallons, or 38-hours-worth of storage.[10] CWCGV's proposal for the Storage Tank provides 4,516,625 gallons, or 49-hours-worth of water storage.[11]

Thus, the Storage Tank added to CWCGV's system would enable it to have two-days-worth of water during an emergency, including in a situation where water could not be pumped. Further, the cost for the additional 1.0 million gallons of storage is $200,000, from approximately $1.0 million to $1.2 million.[12] On top of that, the Storage Tank clearly provides added security against vandalism and prevents contamination while also significantly reducing maintenance costs and increasing operational efficiencies.

The bottom line is that CWCGV provided substantial justification for the Storage Tank, including the need for 2.0 gallons of capacity. Unfortunately, Staff does not address any of this

[9] See Exhibit 5 (Response to DR 4.2) at 5 (Table 3 at Column A).

[10] *Id.* at 6 (Table 4 at Column C.)

[11] *Id.* at 7 (Table 5 at Column E.)

[12] See Company Response to Staff DR STF 5.1 (attached as part of Exhibit 1). Notably, even Staff's engineering analysis indicates a cost differential of less than $200,000.

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information in Staff's engineering report recommending denial of the financing request for the Storage Tank.

6. Staff's engineering report does not provide relevant and material information.

In particular, there is little discussion of the Company's justification for the Storage Tank under emergency circumstances. Little attention is paid to CWCGV's system design. Staff's engineering report makes no mention of the Company's storage analysis. Regarding emergencies, all Staff recommends is to examine "the possibility of upgrading one of its two on-site generators can power the well pumps in case of emergency."

A major shortcoming with the denial recommendation is that the Company's water system must address a variety of circumstances. Just as the storage reservoirs are not likely to be full at all times (resulting in operating capacity being less than maximum capacity) the Company must assume that the well with the generator sized for emergency pumping may not always be available when a system-wide emergency occurs, such as when down for maintenance or repairs. CWCGV believes it is not good emergency planning to simply assume all facilities will be available at maximum capacity, especially when a major event strikes. Nevertheless, and even without this fundamental consideration, the Company examined the generator alternative and provided justification as to why it is an inferior solution. These reasons are discussed in the next section.

Moreover, CWCGV takes issue with much of what is stated in Staff's engineering report. For example, it states that there is a total water storage capacity of 5.60 million gallons in CWCGV's system; but as the company noted in discovery (and as it mentioned earlier) there is only 4.47 million gallons of available storage.[13] While Staff's engineering report mirrors the Company's response regarding the decrease in consumption, it fails to note that the Company also stated it was not in a position to determine whether the changes are cyclical or permanent.[14] Water use per customer could increase in the future.

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[13] See Exhibit 5 at Tables 2 and 3. Maximum Operating Storage is the summation of operating, equalizing and emergency storage for the four storage facilities plus the two fore bays.

[14] See Response to Staff DR JL 4.1 attached as Exhibit 6.

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CWCGV also indicated to Staff in discovery that any analysis of production and storage capacity must factor in unaccounted-for water. In other words, the water use should be based on gallons pumped and not gallons sold.[15] Using an analysis based only on pumping capacity is of particular concern, because it assumes that the Company maintains the ability to produce water – and presumably supports the Company adding thousands of more customers to its system without *any* water storage facilities. That is clearly not the case.

Further, the Company strongly disagrees with the conclusion that CWCGV's existing water system can adequately support approximately 47,000 additional connections (approximately 60,000 total connections.) To understand why that is not true, one must have a full understanding of both the system's normal operating requirements, as well as the impact on the system design when factoring in the need to ensure reliability in general, and continuity of service in particular. The following example illustrates this need:

- Assume that Water Company A has only one well and pump system that serves 10,000 connections. One could say that system reliability would be improved by having an on-site generator to provide power, if the electrical utility power supply were to fail. But if the pump itself fails, the on-site generator is of no help. Moreover, the generator would not be effective if the well casing or booster pump failed.
- By contrast, an alternate means of ensuring safe and reliable service, to address a wide variety of possible failures, is to have two well-and-pump systems. That does not mean the system is capable of providing water to twice as many customers under all circumstances; if one of the systems is down, the other system can maintain safe and reliable service for Water Company A's 10,000 connections.

Today, CWCGV's system is capable of delivering water to 13,000 connections under normal operations; but the system is not capable of handling 26,000 total connections (let alone an

[15] Exhibit 5 at 2 ("5. Water use should be based on gallons pumped and not gallons sold. It is reasonable to expect that unaccounted for and system use water is an inherent element of water consumption and should be factored in the analysis.")

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additional 47,000 connections) even with the Storage Tank under all of the circumstances that it could face. If part of its system were down, or if a major event occurred, then CWCGV would have no means to ensure the water service its customers rely on. The bottom line is that the Company seeks to have redundancy in its system because that is the best means to maintain and improve system reliability, for its 13,000 customers. For CWCGV's member-customers, the benefits of doing so outweigh the costs.

Regarding the well pumps, while the two wells cited have the production capacity to meet peak-day demand, the current generators at those wells are inadequate for running the well pumps. Those generators are necessary to run two out of five boosters and simply allow the Company access to the water in the fore bay holding tanks.[16] Further, Staff apparently assumes that the well pumps can and will run at capacity 24 hours a day, seven days a week, without any breakdowns or maintenance.

Staff also does not appear to give much credence to the Company's legitimate concern about a major event impacting its ability to provide safe and reliable water service. Indeed, much attention is being paid to utilities taking preventative steps to reduce the vulnerability to power loss – as this is viewed as the biggest factor affecting water sector operations *even with* backup generation.[17] The Company is trying to ensure a reliable supply for 48 hours given the characteristics of its customer profile if a major event interrupts the ability to deliver water for an extensive time period. This is what the Company should be doing. And adding generators as Staff suggests is not the right solution for dealing with a wide variety of potential problems.

7. Backup generators have disadvantages that the Company explored and shared with Staff.

First, the backup generators for the well pumps would be in addition to the current generators at Wells #10 and #11. The generators that currently exist are for the operational support

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[16] The Company explained this as part of its response to Staff's sixth set of data requests, attached as Exhibit 7, and specifically in the response to Staff DR JL 6.3.

[17] See e.g. AWWA – Water/Wastewater Agency Response Network, Superstorm Sandy After-Action Report (2013) at 3 (available at http://www.awwa.org/resources-tools/water-knowledge/emergency-preparedness/warn-situation-reports.aspx last checked on July 2, 2014) at page 3, which is attached as Exhibit 8.

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of the boosters and this need would not be changed. In short, CWCGV would need both the existing generators *and* the additional generators Staff appears to favor. So, it is not simply a matter of "upgrading" the existing generators.

Second, during discovery, Staff asked the Company about its concerns regarding emergency generation at the well-sites. The Company listed numerous concerns in its response:

- Safety concerns. One of the sites may have insufficient space for the needed generator, and both well sites are within residential areas. CWCGV is concerned about the use of large quantities of combustible fuels in these areas, especially where there may not be adequate space to store fuels on-site.
- Fuel supply concerns. The Company is not certain it could procure the necessary supply of fuel when needed to address an emergency.
- Increased operational costs. Regulatory and permitting requirements associated with using and storing large amounts of combustible fuel near a residential area would likely increase operating costs. Further, CWCGV would have to provide employee training at least. The Company estimates at least $4,400 per year in increased operating costs.
- Environmental concerns – including potential noise and air pollution, and fuel spills at well sites.[18]

The Storage Tank avoids these problems. Further, the Storage Tank provides additional benefits identified by Smyth Industries, Inc. in its professional engineering report, including reduced pumping costs at Well #10.[19] Given, the Storage Tank is more expensive than on-site backup generators. But on-site generation carries significant risk; and the Company has no assurance that on-site backup generators will address the Company's concerns about emergency supply or provide the benefits under all operating conditions that the Storage Tank will provide. To clarify what was stated in discovery, the *minimum-sized* generator necessary to run each well

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[18] See Company responses to Staff DR STF 5.2 (part of Exhibit 1) and DR J.L 6.3 (part of Exhibit 8.)

[19] See Exhibit 2, supra notes 2 and 3.

pump is 500 kW.[20] And the cheapest is not synonymous with most cost-effective when one factors in the need, the benefits, the risks, the costs, and examination of the particular facts and circumstances. Finally, the expected life of the Storage Tank is 40 years; by contrast, the expected life of the generators is only 20 years. In short, the Storage Tank is the safest, most reliable means to both assure an appropriate emergency supply and preserve the integrity of CWCGV's system. The benefits outweigh the costs, and meet the customers' high expectations of a water system providing safe and reliable service without exorbitant or unnecessary expense.

8. Other comments to the Staff Report.

The Company has only a few relatively minor comments to the Staff Report (besides the findings and recommendations in the engineering report.) First, because the Company's operating revenues is well below $5.0 million, the Company is a Class "B" water company. Second, the Company requests authority up to $2.2 million so that it could refinance before November of 2014 and finance the costs associated with administration and attorney's fees in the amounts of $51,000 and $20,000 respectively to obtain the required regulatory approval.[21] Some amount of these costs would be incurred regardless of whether the Storage Tank financing is approved. Third, with respect to the $1.2-million figure for the Storage Tank, the Company believes that is a reasonable figure and that the line item costs identified, including the 11% contingency, are reasonable estimates in comparison to other financing requests.

9. Conclusion.

The Company has sought to work with Staff in the past on financing and other matters with the Commission and its Staff. But it cannot sacrifice the reliability of its system based on a Staff engineering report that fails to take into account relevant and material factors summarized in this response. It would be irresponsible for it to withdraw this application or simply acquiesce to Staff in this instance. The member-customers are aware of the actions of the board and management and

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[20] See Company response to Staff DR JL 6.4 (attached as part of Exhibit 7.)

[21] These costs were identified and justified in the Company's response to Staff DR Nos. STF 5.1 (part of Exhibit 1) and JL 6.5 (part of Exhibit 7).

support the direction for a high-quality water system. The Company's rates are among the lowest in the area and reflect its lean and efficient operations. The Storage Tank is a result of careful planning and maintaining the integrity of its system while preparing for the worst-case scenario. CWCGV has met the requirements of A.R.S. § 40-301(C) and the management determination on how best to achieve safe and reliable service should not be interfered with. In short, the Company's request is in the best interests of its member-customers and is in the public interest.

WHEREFORE, CWCGV maintains its request that the Commission:

1. authorize CWCGV to borrow up to a total of $3.4 million from Compass Bank and Compass Mortgage Corporation for the purposes of: (1) refinancing of up to $2.2 million in existing long-term debt; and (2) issuing an additional $1.2 million in long-term debt for the Storage Tank, under A.R.S. §§ 40-301 and 40-302 and to secure the debt as indicated in the Application;
2. authorize it to engage in any transactions and execute any documents necessary to effectuate the authorizations requested in this Application;
3. approve these requests so that the order can be effective on or before September 15, 2014; and
4. grant any such other and further relief as appropriate under the circumstances.

RESPECTFULLY SUBMITTED this 2nd day of July, 2014.

COMMUNITY WATER COMPANY OF GREEN VALLEY

By ______________________________

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Copy of the foregoing hand-delivered this 2nd day of July 2014 to:

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Exhibit 1

COMMUNITY WATER COMPANY
OF GREEN VALLEY'S
RESPONSES TO STAFF'S VERBAL REQUESTS
DATED MAY 7, 2014
(FIFTH SET OF DATA REQUESTS)
DOCKET NO. W-02304A-14-0041
Dated May 13, 2014

STF 5.1 What is the price difference between a 1 million gallon and a 2 million gallon above ground storage tank, of similar design?

Response:

The price difference is estimated at $197,814, see below:

	2 Million Gallons	1 Million Gallons	Difference	Percent 1MG
Total Tank Bid	875,660	710,000	165,660	23%
Taxes @ 6.1%	53,415	43,310	10,105	23%
Controls Reconfiguration	15,000	15,000	-	0%
Flowmeters	15,500	15,500	-	0%
Fencing	33,434	33,434	-	0%
Atty. Fees	20,000	20,000	-	0%
Overhead (5%)	51,000	42,100	8,900	21%
Contingency	131,491	118,342	13,149	11%
Surveying	4,500	4,500	-	0%
Total	1,200,000	1,002,186	197,814	20%
verage Operating Storage (Gallons)	1,333,000	666,500	666,500	100%
Cost per AOS gallons	0.90	1.50	0.60	40%
Cost per design gallons	0.60	1.00	0.40	40%

Quotes are attached.

Respondent: John Meyer

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STF 5.2 What are CWC's concerns regarding emergency generators located at the well-sites?

Response:

Safety Concerns:

CWC has concerns for employee safety. A review of our well sites indicates that the well 11 site may not be large enough to accommodate a sufficiently-sized generator. An inappropriate space for maintenance and inspection would create an unsafe work environment. An above ground storage facility will not require additional land.

Further, CWC well sites are located in residential areas, the use of large quantities of combustible fuels (either natural gas or diesel) in residential area will increase the potential risk to the community. An above ground storage facility provides direct available water supplies and greater security.

Operational Cost/Rate Concerns:

CWC is concerned that there would not be sufficient fuel supplies to meet our emergency needs. Forebays have approximately a 10-hour fuel supply; alternative power supplies for wells would have a similar limitation. CWC has no stand by fuel supplies in a major power outage. An above ground storage facility will rely on being filled when electricity is available.

CWC has concerns about natural gas supplies. Availability of natural gas in the area of the wells is unknown. Gas utility may require larger delivery lines. An above ground storage facility will not rely on alternative fuel sources.

CWC has concerns about the impact on operations. In the late 1970's and early 1980's Community Water Company stored gasoline at its warehouse facility for use by its service vehicles. The operating costs required from the regulations outweighed the savings from purchasing fuel in bulk. Further, regulatory and permitting requirements may be implicated, which adds to operational costs. An above ground storage facility will not rely on alternative fuels.

CWC is concerned about increasing the complexity of operating the system, which would increase employee training and wage costs. This would affect rate payers.

CWC has concerns about the impact on operating costs. Storage requirements of diesel fuel to retain its usefulness are unknown. Unused fuel may have to be dumped or used, resulting in higher operating costs on water on ratepayers. An above ground storage facility will not increase operating costs.

Respondents: John Meyer and Arturo Gabaldón

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Dated May 13, 2014

STF 5.3 Please provide any records regarding past power failures to CWC.

Response:

CWC does not have records of power failures in its possession. Management has attempted to inquire with TEP but has not yet received a response.

Respondents: John Meyer and Arturo Gabaldón

COMMUNITY WATER COMPANY
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STF 5.4 Please explain the need for the new storage facility based on CWC's planning. What are CWC's overall concerns?

Response:

CWC is planning for a major event (such as a power failure) that would adversely impact its entire system, and its ability to provide safe and reliable service to its customers. CWC management and staff are responsible for the delivery of suitable water to a population of over 22,000 persons (almost 13,000 customers) many of whom are retirees 75 years old or older. This population is especially vulnerable, which is the basis for a 48-hour supply of water based on average use, before curtailment measures would have to be put into effect. CWC continues to work with local emergency management organizations to develop plans in case of such an event, in addition to ensuring a reliable water supply in accordance with its best practices.

Respondents: John Meyer and Arturo Gabaldón

COMMUNITY WATER COMPANY
OF GREEN VALLEY'S
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Dated May 13, 2014

STF 5.4 What does a backup generator cost?

Response:

Per quote from Barney Foster at Simonsen, Generator Service, Inc. (520-889-9581) the cost of a 500 KW Natural Gas Unit with ATS is $210,000.

Respondent: John Meyer

Exhibit 2

COMMUNITY WATER COMPANY OF GREEN VALLEY'S RESPONSES TO STAFF'S SECOND SET OF DATA REQUESTS DOCKET NO. W-02304A-14-0041 Dated March 10, 2014

JL 2.1 New Storage Tank — Please provide a copy of engineering report regarding the need for the new storage tank. This report should be signed by a licensed professional engineer in the State of Arizona, and include following:

a. Submit a cost estimate with sufficient detail to the proposed new aboveground storage tank;

b. Provide professional engineering opinion regarding the existing Reservoir 42, and compare the costs and benefits to repair the existing Reservoir #2 vs. replace it.

RESPONSE: See attached.

Respondent: John Meyer, CWCGV Treatment Supervisor

SMYTH STEEL MANUFACTURING, INC.
4010 E. Illinois St.
Tucson, AZ 85714
(520) 750-8719
(520) 750-9544

March 17, 2014

To: John Meyer
Re: 2.0MG Reservoir

We are pleased to offer the following proposal to fabricate and install a new 2.0MG water storage tank and associated piping per AWWA D100-96. Said tank will be 120'Ø x 24' tall.

One 2.0 MG steel water storage tank, 120' diameter x 24' height

Includes:
- One roof vent and roof access hatch
- Shell man-ways
- One overflow, inlet and outlet piping
- Gauge board
- Interior and exterior ladder
- NSF approved interior and exterior coatings
- Installation of concrete tank base
- Installation of gravel
- Shop drawings

Excludes: Valves, flow meters, site piping, etc.
Taxes, Bonds and Permits

Price - $742,900

Add Alternate:
- Fabricate and install 60 LF of 16" carbon steel mixing pipe with 4 pipe stands and painted.

Price - $5,960

Site Work

Includes:
- Remove and haul off existing block wall
- Remove existing Hypalon tank liner
- Backfill existing reservoir (pricing assumes adequate material available on site to complete pad, no import material)
- Compaction testing of backfill by geotechnical consultant
- Install 16" piping inlets/outlets to the new tank and connect to existing system

SMYTH STEEL MANUFACTURING, INC.
4010 E. Illinois St.
Tucson, AZ 85714
(520) 750-8719
(520) 750-9544

Excludes:

- Taxes, bonds and permits
- Backflow preventer(s)
- Flow meter(s)

Price - $126,800

Due to the volatility of the steel and fuel markets, this quote is valid for 30 days from the above date. We will need to order and bill for material upon receipt of a purchase order.

If you have any questions please do not hesitate to contact our office.

Respectfully submitted,

Accepted

By:______________________________
Gary Smyth
President
Date:______________________________

Preliminary Schedule Of Values
Project: Continental Road Reservoir Improvements - 2 MG Storage Tank
Prepared For: Community Water
Prepared By: Smyth Industries, INC.
REVISED: March 17, 2014

Item No.	Description	Amount	Units	Total
1	**Survey**	1	EA	$2,000
2	**Geotechnical Site Evaluation & Materials Testing**	1	EA	$12,000
3	**Structural Design**	1	EA	$5,000
4	**Demo, Grading & Backfill**	1	EA	$69,600
5	**Underground Piping**	1	EA	$38,200
6	**Tank Mixing Pipe**	1	EA	$5,960
7	**2 MG Welded Steel Tank per AWWA Standards**	1	EA	$742,900

Notes:
1) Due to the volatilty of the steel and fuel markets, this proposal is valid for 30 days from the date listed above.
2) This proposal addresses the increased costs of tank coatings and the underground piping installation having no backflow prevention devices.

SMYTH INDUSTRIES INC.
4010 E. Illinois St.
Tucson, AZ 85714
(520) 750-8719 Phone | (520) 750-9544 Fax

March 17, 2014

Community Water Company of Green Valley
1501 S. La Canada Dr.
Green Valley, AZ 85622

Dear Community Water,

This letter is in response to your request for Smyth Industries to evaluate the two options being considered to replace the existing hypalon tank at the Reservoir #2 site on Continental Road. The two options being considered are:

1. Install a new above-ground welded steel potable water storage tank.
2. Replace the existing below-ground hypalon tank.

We conclude that there are many advantages gained with the construction of a welded steel tank, including health and safety, cost, security, and maintenance while there are only minimal benefits gained with the installation of a new hypalon tank. The pros and cons are described in greater detail below.

<u>Cost</u>

The approximate cost to replace the Reservoir #2 hypalon tank is $500,000 and the estimated service life of that tank is 12-13 years. The cost of the new welded steel tank is about $1,000,000 with an estimated service life of 30 years. The cost per year of the hypalon tank is about $38,000-42,000 while the cost per year of the welded steel tank is about $33,000-34,000. Additionally the hypalon tank would require about 250 man hours of maintenance annually for the following actions:

- Dewatering the hypalon cover after rainfall
- Cleaning the hypalon cover
- Maintaining the motor operated valve
- Maintaining the pressure pump
- Maintaining the control system

The maintenance required for steel tanks is usually repair of the interior coatings. Typically these repairs are under warranty for the first 2 years of service. After warranty, about every 8-10 years coating maintenance is required at a cost of about $5,000-$10,000, and a full recoating of the tank interior may be needed after 15-20 years at a rough cost of about $100,000.

<u>Health and Safety</u>

During site visits we observed and noticed the existing hypalon tank cover (which is at ground level and exposed to the elements) has been repaired, likely due to splitting or vandalism. These penetrations of the hypalon cover allow for contaminants to enter the tank prior to their repair.

SMYTH INDUSTRIES INC.
4010 E. Illinois St.
Tucson, AZ 85714
(520) 750-8719 Phone | (520) 750-9544 Fax

Additionally the connection of the hypalon tank cover to the concrete ring at the edge of the tank is made via plates and bolts. Said connection is not likely watertight which may permit contaminants to enter the tank via rainwater runoff. This is of concern when considering the proximity to the existing mine and desert animal fecal material. Another safety concern is that there is no way to inspect the inside of the hypalon tank, and Community Water has been unable to contract a certified diver to inspect the inside of the tank to date.

A welded steel tank would eliminate all of the health and safety concerns described above.

Hydraulic Advantages

As mentioned prior, the existing hypalon tank is a below-ground storage vessel. Per plan documents provided by Community Water the bottom of the existing tank is 16-feet below ground surface. This requires that the inlet/outlet is at that level as well which reduces the amount of available head pressure within the system. Also the shared inlet/outlet in the existing system results in poor water exchange or circulation within the tank leading to stagnation and less desirable water quality.

An above-ground welded steel tank would increase the amount of head pressure available within the system and per Community Water would reduce pumping costs at well #10 due to the increase in overall dynamic head in the system. It would also allow for the elimination of the pressure pump at this site and create a redundant source of water pressure within the distribution system. Additionally the welded steel tank design would include an inlet and outlet with at least 90-degrees of separation between which would increase circulation in the tank, thereby increasing water quality. Another benefit resulting from the above ground steel tank is that the Reservoir #2 site would then be under positive pressure which is generally more secure against contamination.

If you have any questions, comments, or concerns regarding the opinions and recommendations described herein please contact Smyth Industries.

Sincerely,

Jesse Schultz, PE
Project Manager

Exhibit 3

EPA 600/R-11/054 | June 2011 | www.epa.gov/ord

United States
Environmental Protection
Agency

Planning for an Emergency Drinking Water Supply

Office of Research and Development
National Homeland Security Research Center

Appendix B: Interim Water Quality Targets

This workshop held in Washington, D.C. on January 28, 2010 assembled experts from NGOs, local, state and federal agencies to consider emergency water supplies and to brainstorm potential strategies for improving the effectiveness of the response. The agenda consisted of several items:

1. Objectives
2. Background
    - Emergency water plan
    - Limiters on response
    - Stakeholder issues
3. Potential circumstances that could trigger need
4. Precedents
    - Tri-service standards
    - Environmental Protection Agency (EPA) Protective Action Guides
    - World Health Organization standards
    - Prior disasters
    - Other
5. Scenarios
6. Key Issues
7. Recommendations

Objectives

This workshop was prompted by the specter of a disaster of unprecedented scale for the U.S. that would trigger a severely time-limited, resource-constrained response to acute public health needs. More specifically, during three 2009 workshops which focused on supplying potable water after a major disaster, participants from local, regional, state and federal government agencies, as well as the private sector, all asked whether relief from some regulatory requirements – referred to as "interim standards" – would be possible post-disaster as this might improve the timeliness of providing water.

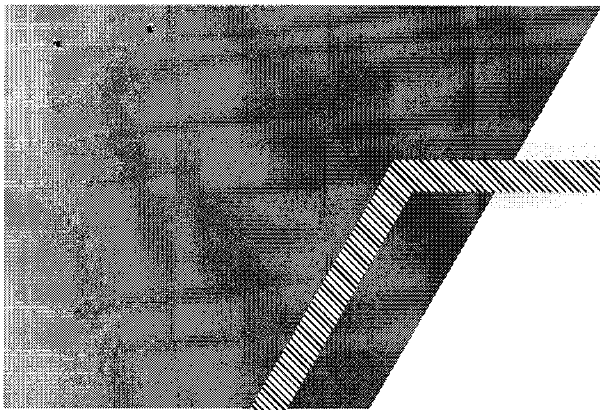
Conclusions

Four principal conclusions were drawn:

1. An epic catastrophe impacting a region with millions of people would increase a multiplicity of public health risks.
2. The recovery period would likely be of a long duration since events that impact drinking water systems also have profound primary impacts on other infrastructure (e.g., power, transportation, communications) and secondary impacts (e.g., disruption to supply chains, mobility difficulties, security concerns, human-resource depletion).
3. There is precedent, and likely a need during emergencies, for adjusting water-quality goals during the recovery period.[20]

[20] Variance and exemptions from certain regulatory provisions may be granted in accordance with 40 C.F.R. § 141.4(a). The authority to grant variances or exemptions confers as part of state primacy with EPA oversight.

Exhibit 4



Effective Utility Management

A Primer for Water and Wastewater Utilities

June 2008

ASSOCIATION OF METROPOLITAN WATER AGENCIES

APWA

American Water Works Association

NACWA

NAWC NATIONAL ASSOCIATION OF WATER COMPANIES

Water Environment Federation

Example calculations:

- Emergency Response Plan (ERP) coverage and preparedness:
  - Does the utility have an ERP in place (yes/no)?
  - Number and frequency of ERP trainings per year: 100 X (number of employees who participate in ERP trainings ÷ total number of employees).
  - Number and frequency of ERP exercises per year: 100 X (number of employees who participate in ERP exercises ÷ total number of employees).
  - Frequency with which the ERP is reviewed and updated.
- *Vulnerability management*: Is there a process in place for identifying and addressing system deficiencies (e.g., deficiency reporting with an immediate remedy process) (yes/no)?

4. Ongoing operational resiliency

Description: This measure assesses a utility's operational reliability during ongoing/routine operations.

Example calculations:

- *Uptime for critical utility components on an ongoing basis* (percent): 100 X (hours of critical component uptime ÷ hours critical components have the physical potential to be operational). Note: a utility can apply this measure on an individual component basis or summed across all identified critical components. Also, a utility can make this measure more precise by adjusting for planned maintenance periods.

5. Operational resiliency under emergency conditions

Description: This measure assesses the operational preparedness and expected responsiveness in critical areas under emergency conditions.

Example calculations (all apply to emergency conditions and, where relevant, factor in anticipated downtimes relative to required/high demand times):

- *Power resiliency*: Period of time (e.g., hours or days) for which backup power is available for critical operations (i.e., those required to meet 100 percent of minimum daily demand). (Note: "minimum daily demand" is the average daily demand for the lowest production month of the year.)
- *Treatment chemical resiliency*: Period of time (e.g., hours or days) minimum daily demand can be met with water treated to meet SDWA standards for acute contaminants (i.e., *E.coli*, fecal coliform, nitrate, nitrite, total nitrate and nitrite, chlorine dioxide, turbidity as referenced in the list of situations requiring a Tier 1 Public Notification under 40 CFR 141.202), without additional treatment

chemical deliveries. (Note: "minimum daily demand" is the average daily demand for the lowest production month of the year.)

- *Critical parts and equipment resiliency*: Current longest lead time (e.g., hours or days) for repair or replacement of operationally critical parts or equipment (calculated by examining repair and replacement lead times for all identified critical parts and equipment and taking the longest single identified time).
- *Critical staff resiliency*: Average number of response-capable backup staff for critical operation and maintenance positions (calculated as the sum of all response-capable backup staff ÷ total number of critical operation and maintenance positions).
- *Treatment operations resiliency* (percent): Percent of minimum daily demand met with the primary production or treatment plant offline for 24, 48, and 72 hours. (Note: "minimum daily demand" is the average daily demand for the lowest production month of the year.)
- *Sourcewater resiliency*: Period of time (e.g., hours or days) minimum daily demand can be met with the primary raw water source unavailable. (Note: "minimum daily demand" is the average daily demand for the lowest production month of the year.)

Community Sustainability

1. Watershed-based infrastructure planning

Description: This measure addresses utility efforts to consider watershed-based approaches when making management decisions affecting infrastructure planning and investment options. Watershed protection strategies can sometimes, for example, protect sourcewater quality limiting the need for additional or enhanced water treatment capacity.

Example question:

- Does the utility employ alternative, watershed-based approaches to align infrastructure decisions with overall watershed goals and potentially reduce future infrastructure costs? Watershed-based approaches include, for example: centralized management of decentralized systems; stormwater management; sourcewater protection programs; and conjunctive use of groundwater, sourcewater, and recycled water to optimize resource use at a basin scale. (See also "green infrastructure" below.)

Exhibit 5

COMMUNITY WATER COMPANY
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JL 4.2 Please see attached water storage calculations. It shows CWC has adequate production capacity and storage capacity to serve the existing customer base and reasonable growth after Company's existing reservoir #2 is removed without replacement. Please let us know if you agree.

Response:

CWC disagrees that there is adequate storage capacity after removing reservoir #2. Further, CWC does not concur that production capacity should be used as a substitute for water storage. CWC assumes for planning purposes that a major power outage is in effect and no production is possible. CWC wells run on electricity only and wells do not have stand-by power generation capabilities. CWC plans for numerous other contingencies including when the Company takes a well or reservoir out of service to perform routine maintenance for example. Its planning is based on overall reliability of CWC's system that has been in place and evolved over time.

Further, CWC does not agree with some of the figures and assumptions ACC Staff uses to make its calculations. Below are CWC's proposed adjustments to ACC Staff's calculations and assumptions in its question:

1. Production capacity without backup power generating capabilities should not be included when calculating storage capacity, see Arizona Department of Environmental Quality Engineering Bulletin 10, Chapter 6, section D "capacity."
2. CWC target for emergency storage requirement is 48 hours of average day based on standards set forth in the Handbook on Water Systems 2nd Edition HDR Engineering Inc. © 2001 ("Capacity" page 957) "... a minimum emergency storage volume would be enough to supply two days [48-hours] of average demand in the area served by the storage facility."
3. Based on 2013 total water produced a 48-hour average demand in the CWC area is 4,453,037 gallons.
4. CWC believes that using the December 31, 2013 customer count is too low and proposes the following projected June 2014 numbers. CWC is prepared to provide actual numbers when available.
5. Water use should be based on gallons pumped and not gallons sold. It is reasonable to expect that unaccounted for and system use water is an inherent element of water consumption and should be factored into the analysis.
6. Based on ACC formula applying CWC adjustments noted, the peak day of peak month projected use (the day where demand for water from CWC customers is at its highest) can reasonably be estimated to be at least 3,200,504 gallons.

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Based on CWC's adjustments, it projects the number of customers to be approximately 12,992 at June 2014, which affects both the average and peak day projected use within the peak month, as shown in Table 1:

Table 1

System Requirements					
Peak month divided by 30 adjusted for peak day					
				Average	Average
		Peak Day of Peak Month		Day of	Day of
Customer Counts	Dates	ACC	CWC	Peak Month	Year 2013
Number of customers at Jan 2013			12,868	12,868	12,868
Number of customers at June 2013		12,902	12,902	12,902	12,902
2013 6 month Increase			34	34	34
Number of customers at Dec 2013		12,958	12,958	12,958	12,958
Number of customers projected to June 2014			12,992	12,992	12,992
Water Use					
Gallons of water sold June 2013 (ACC basis)		69,556,000			
Gallons of water produced in the year 2013					795,994,000
Gallons of water produced June 2013 (CWC basis)			76,280,000	76,280,000	
Number of customers June 2013		12,902	12,902	12,902	12,902
Average gallons per customer for a month		5,391	5,912	5,912	5,141
Gallons per customer per day (/30)		180	197	197	171
Peak factor (per day x 1.25)		225	246	-	-
Number of customers at Dec 2013		12,958	-	-	-
Number of customers projected to June 2014		-	12,992	12,992	12,992
Avg day of 2013 (based on produced CWC)					2,226,518
Avg day of peak month (based on prod CWC)				2,560,403	
Peak day of peak month (based on prod CWC)			3,200,504		
Peak day of peak month (based on sold ACC)		2,910,746			
Hourly projected water requirement (gallons)		121,281	133,354	106,683	92,772
48-Hours supply		5,821,492	6,401,009	5,120,807	4,453,037

Reservoir storage components are described on Table 2; volume is allocated for overflow, operations, equalizing, emergency and dead storage, based on standards set forth in the Handbook on Water Systems ("Capacity" figure 27-1 on page 955).

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Table 2

Storage Component Breakdown (Gallons)

Reservoir Number	#1	#2 (Current)	#3	#4	Well 10 Forebay	Well 11 Forebay
Overflow less 1 ft	129,000	207,000	83,000	167,000	37,500	37,500
Normal Operating	156,000	180,000	250,000	500,000	37,500	131,250
Equalizing	222,000	222,000	250,000	500,000	50,000	37,500
Emergency	493,000	347,000	417,000	583,000	75,000	18,750
Dead	-	44,000	0	250,000	100,000	75,000
Total Design in Gallons	1,000,000	1,000,000	1,000,000	2,000,000	300,000	300,000
Average Operating Storage	793,000	659,000	792,000	1,333,000	143,750	121,875
AOS Percent of Design	79%	66%	79%	67%	48%	41%

Storage Component Breakdown (Feet of Water)

Reservoir Number	#1	#2 (Current)	#3	#4	Well 10 Forebay	Well 11 Forebay
Overflow less 1 ft	1.5	2.0	2.0	2.0	1.5	2.0
Normal Operating	2.0	2.0	6.0	6.0	1.5	7.0
Equalizing	3.0	3.0	6.0	6.0	2.0	2.0
Emergency	8.0	7.5	10.0	7.0	3.0	1.0
Dead	0.0	1.5	0.0	3.0	4.0	4.0
Total Design in Feet	14.5	16.0	24.0	24.0	12.0	16.0
Average Operating Storage	12.0	11.5	19.0	16.0	5.8	6.5
AOS Percent of Design	83%	72%	79%	67%	48%	41%

Storage Component Breakdown (Percent)

Reservoir Number	#1	#2 (Current)	#3	#4	Well 10 Forebay	Well 11 Forebay
Overflow less 1 ft	13%	21%	8%	8%	13%	13%
Normal Operating	16%	18%	25%	25%	13%	44%
Equalizing	22%	22%	25%	25%	17%	13%
Emergency	49%	35%	42%	29%	25%	6%
Dead	0%	4%	0%	13%	33%	25%
Total Design	100%	100%	100%	100%	100%	100%

Note - Component breakdown description per Handbook on Water Systems 2nd Edition HDR Engineering Inc. © 2001 ("Capacity" page 955 figure 27-1.)

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The lowest operating levels include the equalizing and emergency water storage: this is labelled "Lowest Operating Storage", average operating includes 50% of operating storage. Table 2 also show storage component breakdown (gallons) for each reservoir and forebay in the CWC system. Forebays were designed to operate as a buffer between the well pumps and the boosters.

Based on the calculations below, the removal of reservoir #2 (Table 3 column A) will bring total available storage at average operating storage levels for emergencies and equalization to 3,183,625 gallons, which is below 4,453,037 gallons, its storage target, and below its 3,200,504 gallon peak day of peak month. Using average operating storage CWC would have 34 hours of storage for average usage, which is below its 48-hour emergency supply target.

CWC believes it is prudent to remove reservoir #2, based on its vulnerability to contamination, safety and security considerations. The reservoir is located in a remote desert area west of the service area. In the mid 1980's the reservoir had been subject of vandalism (knife cut), which could not have happened with a steel tank.

Should reservoir #4 (its largest remaining reservoir) go offline (Table 3 column B), the total available storage at average operating storage levels for emergencies and equalization is 1,850,625 gallons, or 20 hours of storage to meet the average day demands.

Table 3

Existing System Storage and Removal of Reservoir #2					A	B
Storage Available	**Design Capacity**	**Lowest Operating Storage (LOS)**	**Average Operating Storage (AOS)**	**Maximum Operating Storage (MOS)**	**Reservoir #2 Removed (AOS)**	**Res. #4 Offline & Reservoir #2 Removed (AOS)**
Reservoir #1	1,000,000	715,000	793,000	871,000	793,000	793,000
Reservoir #2	1,000,000	569,000	659,000	749,000	-	-
Reservoir #3	1,000,000	667,000	792,000	917,000	792,000	792,000
Reservoir #4	2,000,000	1,083,000	1,333,000	1,583,000	1,333,000	-
Well 10 Forebay	300,000	125,000	143,750	162,500	143,750	143,750
Well 11 Forebay	300,000	56,250	121,875	187,500	121,875	121,875
Total	5,600,000	3,215,250	3,842,625	4,470,000	3,183,625	1,850,625
Hrs of storage (Avg Day of Peak Mo)		30	36	42	30	17
Hrs of storage (Peak Day of Peak Mo)		24	29	34	24	14
Hrs of storage (Avg Day of Year)		35	41	48	34	20

CWC also considered and rejected replacing reservoir #2 with a 1,000,000 gallon above ground steel tank (Table 4 column C). At average operating storage levels this will bring total available storage for emergencies and equalization to 3,842,625 gallons, which is below 4,453,037 gallons, its storage target. Using average operating storage CWC would have 41 hours of storage for average usage, which is below its 48-hour emergency supply target.

Should reservoir #4 (its largest remaining reservoir) go offline (Table 4 column D), the total available storage using average operating storage levels for emergencies and equalization is 2,509,625 gallons, or 27 hours of storage to meet average day demands. This would leave CWC vulnerable in the case of a prolonged power outage.

Table 4

Replace Reservoir #2 with 1,000,000 Gallon Above Ground Steel Tank

			C			D
Storage Available	**Design Capacity**	**Lowest Operating Storage (LOS)**	**Average Operating Storage (AOS)**	**Maximum Operating Storage (MOS)**	**Reservoir #4 Offline (LOS)**	**Reservoir #4 Offline (AOS)**
Reservoir #1	1,000,000	715,000	793,000	871,000	715,000	793,000
Reservoir #2 @ 1M Steel	1,000,000	569,000	659,000	749,000	569,000	659,000
Reservoir #3	1,000,000	667,000	792,000	917,000	667,000	792,000
Reservoir #4	2,000,000	1,083,000	1,333,000	1,583,000	-	-
Well 10 Forebay	300,000	125,000	143,750	162,500	125,000	143,750
Well 11 Forebay	300,000	56,250	121,875	187,500	56,250	121,875
Total	5,600,000	3,215,250	3,842,625	4,470,000	2,132,250	2,509,625
Hrs of storage (Avg Day of Peak Mo)		30	36	42	20	24
Hrs of storage (Peak Day of Peak Mo)		24	29	34	16	19
Hrs of storage (Avg Day of Year)		35	41	48	23	27

A 2,000,000 gallon above ground steel tank replacement of reservoir #2 (Table 5 column E) at average operating storage levels would bring total available storage for emergencies and equalization to 4,516,625 gallons, which provides significantly more assurance CWC can supply water to its customer base in an emergency situation. Using average operating storage for average day usage CWC would have 49 hours of storage for average usage, which meets its 48-hour emergency supply target.

Should reservoir #4 (its largest remaining reservoir) go offline (Table 5 column F), the total available storage at average operating storage levels for emergencies and equalization is 3,183,625 gallons, or 34 hours of storage to meet average usage demands.

Further, the opportunity to double the capacity of reservoir #2 at this time for an incremental increase in cost will better protect the system from long-term power outages. The average age of CWC's customers (many of whom are retirees) makes them particularly vulnerable to water outages. The benefits to replacing reservoir #2 with a 2,000,000 gallon storage facility (and the long-term security it brings) significantly outweighs the incremental cost of the additional capacity in CWC's view.

Table 5

Replace Reservoir #2 with 2,000,000 Gallon Above Ground Steel Tank

			E			F
Storage Available	**Design Capacity**	**Lowest Operating Storage (LOS)**	**Average Operating Storage (AOS)**	**Maximum Operating Storage (MOS)**	**Reservoir #4 Offline (LOS)**	**Reservoir #4 Offline (AOS)**
Reservoir #1	1,000,000	715,000	793,000	871,000	715,000	793,000
Reservoir #2 @ 2M Steel	2,000,000	1,083,000	1,333,000	1,583,000	1,083,000	1,333,000
Reservoir #3	1,000,000	667,000	792,000	917,000	667,000	792,000
Reservoir #4	2,000,000	1,083,000	1,333,000	1,583,000	-	-
Well 10 Forebay	300,000	125,000	143,750	162,500	125,000	143,750
Well 11 Forebay	300,000	56,250	121,875	187,500	56,250	121,875
Total	6,600,000	3,729,250	4,516,625	5,304,000	2,646,250	3,183,625
Hrs of storage (Avg Day of Peak Mo)		35	42	50	25	30
Hrs of storage (Peak Day of Peak Mo)		28	34	40	20	24
Hrs of storage (Avg Day of Year)		40	49	57	29	34

An example of how additional capacity could assist CWC to resolve service issues occurred on February 3, 2011 at approximately 9 a.m. At that time, CWC experienced a 6" fire sprinkler break, which resulted in the loss of more than 750,000 gallons of water within 6 hours. CWC was alerted by its SCADA system and operators were mobilized to investigate the service area to identify the possible causes of the sudden drain in water supplies. The leak was ultimately reported by a customer. Operators noted how vulnerable the reservoirs were to sudden leaks, and felt fortunate that the break occurred during working hours. Had the incident happened at night or on a weekend, the response time may have been delayed, causing serious damage to the system infrastructure, as well as water shortages in the system.

Put simply, CWC's system has been based on having four wells and four reservoirs (storage facilities) from a systems reliability perspective. This means that the system has been designed based on these components in service. The design has served CWC and its customers well for over 37 years. To simply remove one component significantly changes the system design and puts the system at greater risk of a major event leading to customers not having water more frequently and for a greater period of time. CWC believes this is an unacceptable approach because it does not conform to its best management practices. Further, the above event demonstrates our need to increase water storage facilities. Based on the above CWC believes it is reasonable to replace reservoir #2 with the proposed aboveground storage tank and increase storage capacity.

Thus, CWC has several justifications to replace the existing reservoir #2 with the proposed aboveground storage tank beyond simply looking at production as an alternative to storage.

Reservoir #2 should be replaced with an aboveground 2,000,000 gallon steel tank to eliminate the following deficiencies:

1. Vulnerability to contamination (vandalism, terrorism, over filling)
2. Increasing maintenance cost
3. Operational challenges
4. Water quality challenges
5. Employee safety concerns

COMMUNITY WATER COMPANY
OF GREEN VALLEY'S
RESPONSES TO STAFF'S REQUESTS
DATED APRIL 23, 2014
(FOURTH SET OF DATA REQUESTS)
DOCKET NO. W-02304A-14-0041
Dated May 2, 2014

The following are excerpts from various water utility emergency preparedness articles and government agencies regarding the importance of having ample storage in a prolonged outage or natural disaster.

1) "Many utilities have taken steps to identify their vulnerability to power loss and have taken preventive action, such as increasing storage capacity and using backup power strategies to ensure continued operations." ('Superstorm Sandy After Action Report'; Water/Wastewater Agency Response Network, © 2013 American Water Works Association at page 3.)

2) "Jackson said the guiding thought behind the recovery is that without a sufficient supply of water and a functioning wastewater system and effective drainage system, there is no city. 'It has practically become a mantra of ours,' Jackson said, cautioning that many others 'don't really get it yet." ("Katrina Stories Highlight New Realities of Disaster Planning"; Water Beat.) © 2006 American Water Works Association at page 22.)

3) "Assess the significance of extended outages - Multi-agency emergency water supply plans should include an assessment as to recovery periods being extended due to critical spare parts not being available for long durations and the time for restoring critical infrastructure to functional condition. Consequently, provision of potable water and other measures will be required for greater durations than those conventionally planned." ("Planning for Emergency Drinking Water Supply"; EPA 600/R-11/054 June 2011 at page 31.)

4) "The recovery period would likely be of a long duration since events that impact drinking water systems also have profound primary impacts on other infrastructure (e.g., power, transportation, communications) and secondary impacts (e.g., disruption to supply chains, mobility difficulties, security concerns, human-resource depletion). ("Planning for Emergency Drinking Water Supply"; EPA 600/R-11/054 June 2011 at page 38.)

5) "Treatment operations resiliency (percent): Percent of minimum daily demand met with the primary production or treatment plant offline for 24, 48, and 72 hours. (Note: "minimum daily demand" is the average daily demand for the lowest production month of the year.) ("A Primer for Water and Wastewater Utilities" American Water Works Association, © 2008, at page 39.) This illustrates the need to consider 48 and 72 hours of emergency storage even under minimum demands and lowest production levels.

Respondents: John Meyer and Arturo Gabaldon

Exhibit 6

COMMUNITY WATER COMPANY
OF GREEN VALLEY'S
RESPONSES TO STAFF'S REQUESTS
DATED APRIL 23, 2014
(FOURTH SET OF DATA REQUESTS)
DOCKET NO. W-02304A-14-0041
Dated May 2, 2014

JL 4.1 CWC sold total of 721,654,000 gallons water in 2013 with 12,958 customers, and sold 831,899,400 gallons in 2007 with 11,854 customers. Therefore, CWC's customers used 110,245,400 gallons less water in 2013 with 1,104 more customers. Please explain in details why?

Response:

CWC believes that the decrease in water consumption is the result of many factors including higher water bills and sewer bills that have motivated customers to reduce water consumption, CWC and customer conservation efforts, appliance efficiencies, reduction in pools, and impact of the economic downturn that continues to some degree. CWC is not in a position to determine whether these are permanent or cyclical changes.

Respondent: John Meyer and Arturo Gabaldon

Exhibit 7

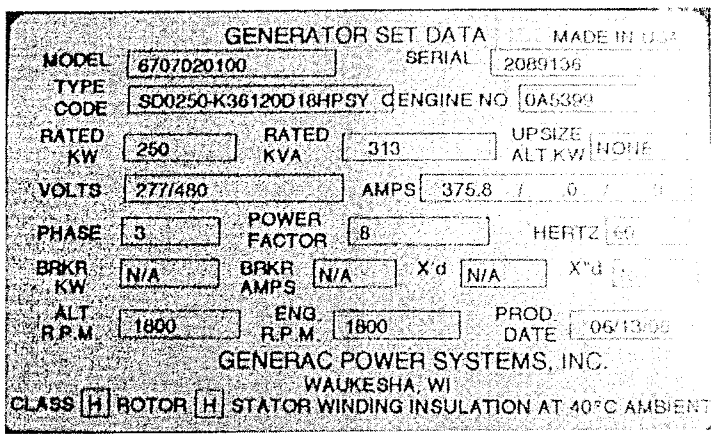
COMMUNITY WATER COMPANY
OF GREEN VALLEY'S
RESPONSES TO STAFF'S SIXTH SET
OF DATA REQUESTS DATED MAY 15, 2014
DOCKET NO. W-02304A-14-0041
Dated May 19, 2014

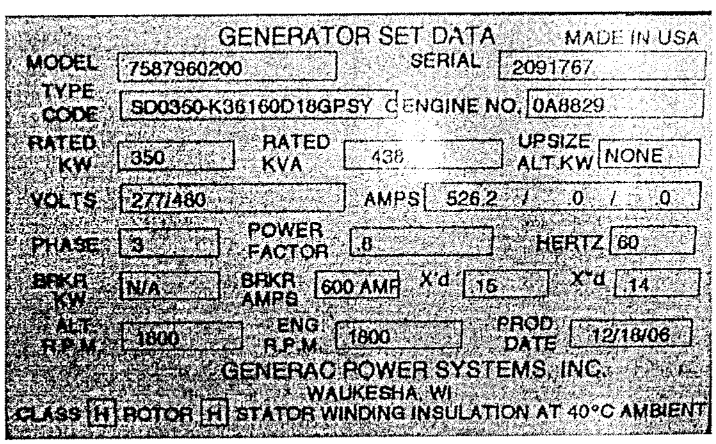
JL 6.1 Please list all generators the Company has, and give detailed specifications for each generator.

Response: **Well 10 generator:** 250 kW (See photo below for specifications).

Well 11 generator: 350 kW (See photo below for specifications).

Respondent: John Meyer





COMMUNITY WATER COMPANY
OF GREEN VALLEY'S
RESPONSES TO STAFF'S SIXTH SET
OF DATA REQUESTS DATED MAY 15, 2014
DOCKET NO. W-02304A-14-0041
Dated May 19, 2014

JL 6.2 Where are the generators located, and when were they installed?

Response: The Well 10 generator was installed in 2006 and is located at 1667 S. Abrego Dr. Green Valley within the well-site boundaries.

The Well 11 generator was installed in 2006 and is located at 18460 S. Calle Valle Verde Green Valley within the well-site boundaries.

Respondent: John Meyer

COMMUNITY WATER COMPANY
OF GREEN VALLEY'S
RESPONSES TO STAFF'S SIXTH SET
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JL 6.3 Why were these generators installed and what if any were CWC's concerns when the generators were installed? What impact on operating costs has CWC had since the generators were installed?

Response: The generators were installed as emergency backup power to run two of the five boosters at each well site, these boosters allow the Company access to the water in the forebay holding tanks..

CWC's concerns included noise pollution, air pollution, fuel spills at well sites and increases in operating costs (roughly $4,400/year).

Respondent: John Meyer

**COMMUNITY WATER COMPANY
OF GREEN VALLEY'S
RESPONSES TO STAFF'S SIXTH SET
OF DATA REQUESTS DATED MAY 15, 2014
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JL 6.4 Can any of the existing generators be used in an emergency to run the well pumps? If the answer is no, please give detailed reasons why not.

Response: The existing generators are inadequate for the running of the well pumps. The wells require a minimum of a 500 kW generator. The generator at Well 10 is 250 kW and the generator at Well 11 is 350 kW.

Respondent: John Meyer

**COMMUNITY WATER COMPANY
OF GREEN VALLEY'S
RESPONSES TO STAFF'S SIXTH SET
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JL 6.5 With regard to the Company's response to JL 5.1, please explain what the following cost estimates were based upon: 1) $20,000 for attorney's fee, 2) $42,100 for overhead costs, and 3) $118,342 for contingency Fees.

Response: Attorney fees are related to the costs to achieve regulatory approvals specific to the new facility that is replacing Reservoir #2 and the necessary financing, and is based on past experience in obtaining such approvals.

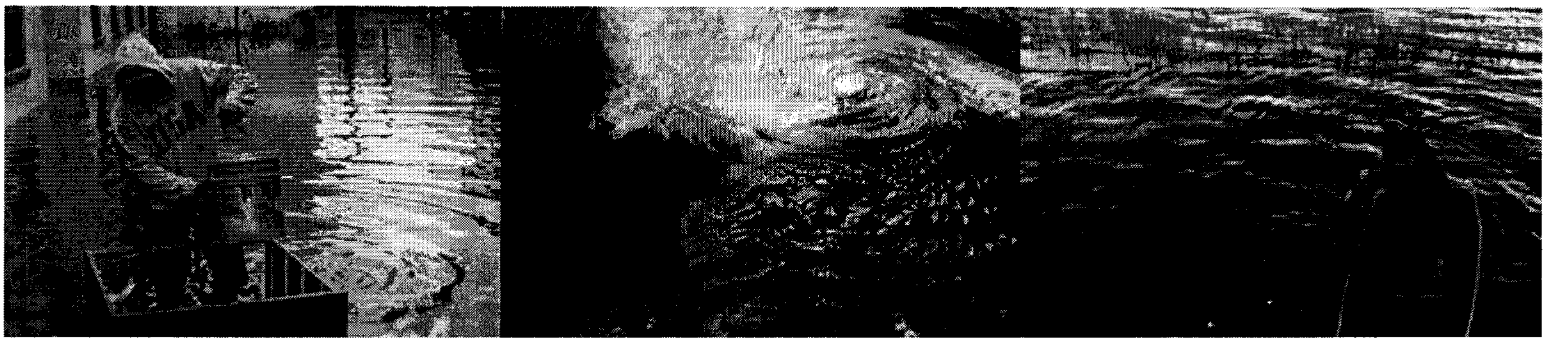
Community Water applied a reasonable overhead charge of 5% for administrative and supervisory costs directly related to the acquisition, installation and startup of the asset.

The 11% contingency is to ensure sufficient funding for potential increase in steel prices that is the result of the lag time between obtaining quotes and obtaining final loan approved. See tank quote for conditions of purchase. Contingency fees also ensure sufficient funding for any other unforeseen increase costs in construction.

Respondent: John Meyer

Exhibit 8

WATER /WASTEWATER AGENCY RESPONSE NETWORK



Superstorm Sandy After-Action Report

American Water Works Association

www.awwa.org

Key Action: Federal/state/local policy for emergency management must clearly elevate the water sector to top-level priority for response and recovery as recommended by the NIAC. [2] Water utilities should continue to work with their critical response partners and customers to ensure that water sector response activities are coordinated, awareness exists with regard to backup power and fuel needs, and coordination of credentialing and site access controls is done in advance.

4. Energy and Water Nexus in Disasters

Success: Many utilities have taken steps to identify their vulnerabilities to power loss and have taken preventive action, such as increasing storage capacity and utilizing backup power strategies to ensure continued operations.

Improvement: Despite these preparations, loss of power was the single greatest factor affecting water sector operations, even at utilities with backup generators. Many requests for generator and/or fuel support were either denied or not rated high priority, thus creating significant risk of cascading consequence that would impact larger community recovery efforts. The ownership status of a water system should not alter priority for response and recovery needs.

Key Action: Water sector requests for generator and fuel support must be shared with the WARN and the Emergency Support Function 3 – Public Works (ESF 3)[3] desk in the EOC. In addition, the Department of Energy (DOE) must make restoration of power to water sector assets a top priority for all power distribution providers. Utilities should continue to assess their energy management strategies to continue normal operations after a power failure. A diverse set of strategies exists for utilities that should be customized for their specific conditions.

5. Site Access

Success: Water utilities have made significant improvements in the credentialing of their own workers to ensure they can be recognized as first responders by their response partners.

Improvement: Despite these efforts at many utilities, water utility crews were denied or prevented from accessing assets that are critical to maintaining drinking water or wastewater service. Some water utility crews resorted to taking local hiking trails and/or risked violating law enforcement edicts in order to conduct necessary repairs and ensure service continuity.

Key Action: The water sector should continue to work with local, state and federal response partners to ensure water utility crews are properly recognized and allowed access to their facilities.

6. Coordination

Success: Many water systems maintain an active relationship and ongoing coordination with local, state and federal response partners through emergency planning, exercises and training.

Improvement: Inconsistent coordination, documentation and reporting of water sector issues occurred within emergency operations centers at local, state and federal levels. Also, inconsistent and piecemeal representation from state primacy agencies within state emergency operations centers strained coordination objectives for resource sharing.

Key Action: State and local emergency operations centers must establish clearly defined roles and responsibilities for water sector support. Representation can be physical or virtual, but should include a member from WARN.

